

REMARKS

This application has been carefully reviewed in light of the Office Action dated March 30, 2009. Claims 1, 3, 4, 7, 8, 10 and 11 are pending in the application, with Claims 5 and 6 having been canceled without prejudice or disclaimer of subject matter and without conceding the correctness of the rejection applied against them. Claims 1 and 11 are the independent claims. Reconsideration and further examination are respectfully requested.

Claims 1, 3 to 8, 10 and 11 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 7,131,124 (Hanyu) in view of U.S. Publication No. 2003/0093612 (Ootani). In this regard, dependent Claims 5 and 6 have been canceled without prejudice or disclaimer of subject matter, and part of the subject matter of Claims 5 and 6 has been incorporated into the independent claims. This should therefore be viewed as a traversal of the rejection, and its withdrawal is respectfully requested as discussed more fully below.

Independent Claims 1 and 11 generally concern data transfer between a first controller which controls an engine section for forming an image and a second controller which transmits image data to the first controller. The engine section includes a nonvolatile memory which is rewritten by rewrite data transmitted from the second controller. Communication is performed according to an image forming operation mode or a rewrite mode. The second controller is notified of a condition change of the engine section by changing a signal level of a report signal line from a first level to a second level.

According to aspects of Claims 1 and 11, in the image forming mode, a condition request instruction is transmitted by the second controller to the first controller after the signal level is changed to the second level, and condition information is

transmitted by the first controller to the second controller after the signal level is returned to the first level. Thus, both a condition request instruction and condition information are transmitted in accordance with a change of the signal level. For one example embodiment, see Figure 8.

According to other aspects of Claims 1 and 11, a rewrite instruction is transmitted by the second controller to the first controller while the signal is at the first level, and rewrite data is transmitted by the second controller to the first controller after the signal level is changed to the first level by the first controller in response to the rewrite instruction. Thus, a rewrite instruction is transmitted while the signal level is at a first level, and rewrite data is transmitted after the signal level is (subsequently) changed to the first level. For one example embodiment, see Figure 8.

By virtue of this arrangement, in which different transmissions between controllers are based on changes in a signal level of a signal line, it is ordinarily possible to simplify and accelerate processing for rewriting data in a controller-to-controller communication.

Referring specifically to claim language, independent Claim 1 is directed to a data transfer method between a first controller which controls an engine section for forming an image and a second controller which transmits image data to the first controller, wherein the engine section includes a nonvolatile memory. In an image forming operation mode of forming an image with the engine section, the method includes notifying the second controller of a condition change of the engine section by the first controller, by changing a signal level of a report signal line from a first level to a second level, transmitting a condition request instruction by the second controller to the first controller

via a data signal line, after the signal level is changed to the second level, and transmitting condition information by the first controller to the second controller via the data signal line in response to the condition request instruction, after the signal level is returned to the first level. In a rewrite mode of rewriting the nonvolatile memory, the method includes transmitting a rewrite instruction by the second controller to the first controller via the data signal line, while the signal level is at the first level, transmitting rewrite data by the second controller to the first controller via the data signal line, after the signal level is changed to the first level by the first controller in response to the rewrite instruction, and rewriting the nonvolatile memory of the engine section by the first controller after the signal level is changed from the first level to the second level, by the rewrite data transmitted from the second controller.

Independent Claim 11 is directed to an apparatus substantially in accordance with the method of Claim 1.

The applied art is not seen to disclose or suggest the features of the present invention, and in particular is not seen to disclose or suggest at least the features of (i) transmitting a condition request instruction and condition information in accordance with a change of a signal level, and (ii) transmitting a rewrite command and rewrite data while the signal level is at a first level.

Page 4 of the Office Action concedes that Hanyu does not disclose transmitting a condition request instruction in response to notification of a condition change by changing a signal level, and transmitting rewrite data in accordance with a signal level of a report signal line. Applicant agrees, and submits that it logically follows that Hanyu also does not disclose or suggest (i) transmitting a condition request instruction and

condition information in accordance with a change of a signal level, and (ii) transmitting a rewrite instruction while the signal level is at a first level and rewrite data after the signal level is changed to a first level.

Nevertheless, the Office Action, in the rejection of now-canceled Claims 5 and 6, asserts that Ootani (paragraphs [0040] to [0041], [0044] to [0047] and [0056] to [0060]) discloses transmitting a conditional request instruction after a signal level is changed from a first level to a second level, transmitting a condition while the signal line is at the second level, and transmitting rewrite data after the signal level is changed from the second level to the first level.

As understood by Applicant, Ootani is directed to a microcomputer with a built-in flash memory. Upon accepting a rewrite command of the flash memory, the flash memory module outputs to a control circuit a ready status signal RYIBY which indicates a busy state during execution of the processing. While the status signal RYIBY indicates the busy state, a HOLD signal is changed to active (“H”) to inhibit a CPU from accessing the flash memory module. When the status signal RYIBY has recovered a ready state, the HOLD signal is changed to “L” to allow the CPU to access the flash memory module. See Ootani, Abstract and paragraphs [0040] to [0041], [0044] to [0047] and [0056] to [0060].

However, the cited portions of Ootani simply disclose that data transmission from a printer controller is permitted or inhibited in accordance with a busy state of the flash memory. The cited portions are not seen to disclose or suggest transmitting condition information or rewrite data in response to a change a signal level, much less (i) transmitting a condition request instruction and condition information in accordance with a change of a

signal level, and (ii) transmitting a rewrite instruction while the signal level is at a first level and rewrite data after the signal level is changed to a first level.

Therefore, independent Claims 1 and 11 are believed to be in condition for allowance, and such action is respectfully requested.

The other claims in the application are each dependent from the independent claims discussed above and are therefore believed to be allowable over the applied art for at least the same reasons. Because each dependent claim is deemed to define an additional aspect of the claims, however, the individual consideration of each on its own merits is respectfully requested.